

REMARKS

This application has been carefully reviewed in light of the Office Action dated November 8, 2004. Claims 21 to 42 are now pending in the application, with Claims 1 to 20 having been canceled, and Claims 21 to 42 having been newly-added. Claims 21, 32 and 42 are the independent claims herein. Reconsideration and further examination are respectfully requested.

The title of the invention was objected to as allegedly being non-descriptive of the invention. A new title has been provided for as set forth above. Accordingly, withdrawal of the objection to the title is respectfully requested.

Claims 1 to 20 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,665,082 (Takeoka) in view of U.S. Patent No. 5,815,283 (Watanabe). Inasmuch as Claims 1 to 20 have been cancelled, the rejections thereof are believed to be obviated. Nonetheless, the Examiner is respectfully requested to reconsider and withdraw the rejections and Applicant submits that newly-added Claims 21 to 42 are believed to be allowable for at least the reasons set forth below.

The present invention of independent Claims 21, 32 and 42 concerns DMA transfer of packets between devices. According to the invention, a first data length of a packet to be transferred from a first device to a second device is decided, where the decision is based upon information related to a second data length of a packet which is receivable by the second device. Then, a plurality of packets having the first data length are generated and stored to a storage unit of the first device, and a DMA controller controls transfer of the plurality of packets having the first data length stored in the storage unit to the second device. As a result, if the length of the packets transferred by the first device is set based on the size of packets that the second device can receive so as to more readily ensure proper transmission and reception of the packets.

Referring specifically to the claims, newly-added independent Claim 42 is a data communication method for communication between a first data communication unit

and a second data communication unit, comprising the steps of a deciding step of deciding a first data length of a packet to be transferred from the first data communication unit to the second data communication unit based upon information related to a second data length of a packet which is receivable by the second data communication unit, a generating step of generating a plurality of packets having the first data length, a storing step of storing the plurality of packets generated in the generating step to a storage unit of the first data communication unit, and a control step of controlling DMA transfer of the plurality of packets having the first data length stored in the storage unit to the second data communication unit.

Newly-added independent Claims 21 and 32 are system and apparatus claims, respectively, that substantially correspond to Claim 42.

The art of record, alone or in any permissible combination, is not seen to disclose or to suggest the features of the present invention, and in particular is not seen to disclose or to suggest at least the feature of deciding a first data length of a packet to be transferred from a first data communication unit to a second data communication unit based upon information related to a second data length of a packet which is receivable by the second data communication unit, and generating a plurality of packets having the first data length.

Takeoka is seen to disclose that a printer controller 10 transmits image data to a printer 20 as a packet. The printer controller 10 reads out of a main memory an amount of transmission data which is transmittable in one packet, and generates a packet of the format shown in Fig. 22 using the read transmission data. (see, for example, column 11, line 61 to column 12, line 1) Thus, the printer controller 10 of Takeoka only generates a packet from an amount of transmission data which is transmittable in one packet, but does not generate a packet based upon information related to a data length of a packet that is receivable by the printer 20. In this regard, printer specification information is transmitted from printer 20 to printer controller 10, but the printer specification

information only includes information regarding the printing speed of printer 20 and a storage capacity of a FIFO memory 26 and gives no suggestion that information related to a data length of a packet that is receivable by the printer 20 is included in the printer specification information. (See column 11, lines 4 to 14.) Accordingly, Takeoka is not seen to disclose or to suggest the features of newly-added independent Claims 21, 32 and 42.

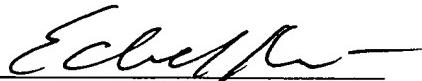
Watanabe is not seen to add anything that, when combined with Takeoka, would have resulted in the present invention. In this regard, Watanabe is merely seen to disclose that a basic unit 1 has a system DMA controller 23 for high-speed data transfer between devices. However, nothing in Watanabe has been found in which a decision is made of a first data length for a packet to be transferred to a second device based on information relating to a second data length of a packet receivable by the second device. Accordingly, Watanabe, when combined with Takeoka, would not have resulted in the present invention.

The other art of record has been studied but none of those references are seen to disclose or to suggest the features of the present invention, and in particular, are not seen to disclose or to suggest at least the feature of deciding a first data length of a packet to be transferred from a first data communication unit to a second data communication unit based upon information related to a second data length of a packet which is receivable by the second data communication unit, and generating a plurality of packets having the first data length.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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